



Evaluation of the level of knowledge of offensive formations of young volleyball players in Iraq

Evaluación del nivel de conocimiento de las formaciones ofensivas de jóvenes jugadores de voleibol en Irak

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Abstract

Objective: Building a knowledge test for offensive formations in volleyball, and setting levels for testing knowledge of offensive formations for young volleyball players in Iraq.

Research methodology: The survey method was used, which is one of the descriptive method methods to know the level of offensive formations. The study community was determined by the players of the Iraqi youth volleyball league clubs in Iraq, numbering (10) clubs, with (12) players from each club, and a total of (120) players for the 2024-2025 sports season. The sample for constructing the measurement tool included (110) players, at a rate of (91.66%), and (10) players for the survey, at a rate of (8.33%), and the application sample included (60) players, at a rate of (50%).

Result: The researchers attribute the reason for players having knowledge of offensive formations at an acceptable level to the fact that this category is at the beginning of their training journey and the interest of coaches and their focus on the physical and skill aspects.

Conclusions: The ability of the knowledge test for offensive formations with (20) paragraphs that was built and five levels were set for it in measuring knowledge of offensive formations among players.

Keywords

Offensive formations; volleyball.

Resumen

Objetivo: Elaborar una prueba de conocimientos sobre formaciones ofensivas en voleibol y establecer niveles para evaluar los conocimientos sobre formaciones ofensivas de jóvenes jugadores de voleibol en Irak.

Metodología de investigación: Se utilizó el método de encuesta, que es uno de los métodos descriptivos para conocer el nivel de las formaciones ofensivas. La comunidad de estudio estuvo determinada por los jugadores de los clubes de la liga de voleibol juvenil iraquí en Irak, contando con (10) clubes, con (12) jugadores de cada club, y un total de (120) jugadores para la temporada deportiva 2024-2025. La muestra para construir la herramienta de medición incluyó (110) jugadores, a una tasa de (91,66%), y (10) jugadores para la encuesta, a una tasa de (8,33%), y la muestra de aplicación incluyó (60) jugadores, a una tasa de (50%).

Resultado: Los investigadores atribuyen la razón por la que los jugadores tienen un nivel aceptable de conocimiento de las formaciones ofensivas al hecho de que esta categoría se encuentra al comienzo de su trayectoria formativa y al interés de los entrenadores y su enfoque en los aspectos físicos y de habilidad.

Conclusiones: La capacidad de la prueba de conocimientos de formaciones ofensivas con (20) párrafos que se construyó y se establecieron cinco niveles para medir el conocimiento de las formaciones ofensivas entre los jugadores.

Palabras clave

Formaciones ofensivas; voleibol.

Introduction

According to the important and major developments witnessed by volleyball, it has been proven that winning competitions and achievements at a high level cannot come except with the participation of all the determinants that contribute to that, and to bring the levels closer in physical and skill numbers, there has become an urgent and important necessity for the tactical aspects in order to increase the continuous competition in volleyball, especially for the youth category (Shaalán, Aboode, & Radhi, 2022), (Shaker, Tuama, & Radhi, 2022)

, which through these variables combined contributes to the players reaching good levels, so attention began to be paid to those details that if all of them are available will increase the chances of obtaining the best achievements in volleyball, and every sports coach hopes to work hard with his players in order to bring them to a high level and work to get rid of their mistakes as much as possible while they are playing matches, and working on that is not an easy matter as it requires continuous work according to scientific contexts that have an impact on winning sports competitions, and volleyball is characterized by continuous competition between players and is characterized by changing situations, and it needs variables that have the advantage in deciding the match through the players' ability to respond quickly to the conditions of the match, especially in the tactical aspect, and this in turn requires a great effort to instill that in the players (Radhi & Obaid, 2020). The importance of the study comes in trying to identify the level of young volleyball players in knowledge of offensive formations in order to evaluate that and advance this important category in order to provide national teams and youth teams with important players. (Hashem, Al Edhary, Radhi, & Hmeid, 2022)

Research problem:

Through field experience in volleyball, they noticed that most of the Iraqi clubs' participation in ball and volleyball and when they participate in local tournaments do not get good results. This matter is attributed by the researchers to the variables under study, especially since this matter is decisive in most periods during the playing time. This matter calls for an urgent need to know the level of young players in this variable on the one hand. On the other hand, according to the researchers' knowledge, there is no measuring tool that accurately measures knowledge of offensive formations in light of which we can know the level of players, which through this enables us to determine the strengths and weaknesses of young players, especially since the varied and discouraging results are often blamed on coaches, which leads to weakness in the direction of these coaches towards continuing training in volleyball. Among the things that encouraged the researcher to study and know it in order to reach important results that contribute to the process of integrated preparation of players and bring them to good levels.

Research objective

- Building a knowledge test for offensive formations in volleyball.
- Setting levels for testing knowledge of offensive formations for young volleyball players in Iraq.
- Knowing the level of knowledge of offensive formations for young volleyball players in Iraq.

Research hypotheses

- There is a real difference in the level of knowledge of offensive formations for young volleyball players in Iraq.

Research fields

- Human field: The human borders included young volleyball players in Iraq for the 2024-2025 sports season,
- Time field: (10/8/2024) to (20/2/2025)
- Spatial field: Sports club halls

Method

Research techniques

The survey method was used, which is one of the descriptive method methods to know the level of offensive formations.

Community and sample research

The study community was determined by the players of the Iraqi youth volleyball league clubs in Iraq, numbering (10) clubs, with (12) players from each club, and a total of (120) players for the 2024-2025 sports season. The sample for constructing the measurement tool included (110) players, at a rate of (91.66%), and (10) players for the survey, at a rate of (8.33%), and the application sample included (60) players, at a rate of (50%).

Methods, devices and tools

- Research methods: They included (questionnaire, Arabic sources, testing and measurement).
- Devices and tools: Personal calculator, number (1), office supplies (papers, pens).

Field study procedures

Building a knowledge test for offensive formations in volleyball

Determining the method and foundations of formulating the paragraphs

The researchers adopted the (multiple choice) method to prepare the paragraphs that make up the knowledge test for offensive formations in volleyball.

Preparing and collecting the paragraphs for the knowledge test for offensive formations

The paragraphs were collected based on the researchers' experience, and their number became (20) paragraphs (see Appendix 1).

Determining the validity of the test paragraphs

The paragraphs were presented to (10) specialists for their validity, and then the (Chi2) test was used to identify the validity of the paragraphs, and all paragraphs were accepted with an agreement rate of (100%).

Developing test instructions

Instructions were developed for the testers on how to answer (see Appendix 1).

Exploratory experiment

It was conducted on (25/8/2024) on a sample of (10) players from Al-Daghara Club to ensure the stability of the test, to know the time taken for the test, to ensure the clarity of the instructions for the players, and to know the understanding of the support team for the work. All the objectives of the experiment referred to above were verified and the average time taken to perform the test was (7) minutes.

Main experiment

The knowledge test for offensive formations was applied to a sample of (110) players for the period from 12 to 20/10/2024 in preparation for statistically analyzing the paragraphs.

Correction of the knowledge test for offensive formations in volleyball

The correction key was used and the tester was given one point for the correct answer and zero for the wrong answer.

Statistical analysis of test items

Ease and difficulty coefficients of items

To find this, the following steps were followed:



- Apply the test, correct and extract the total score obtained by each tester.
- Descending order of testers' scores.
- Deducting (27%) from the sample of the construction, which numbered (110) players, as the number of the highest and lowest scores group was (30).
- Finding the correct answers to the item in each of the two groups.
- Applying the equation to find the ease coefficient

Internal consistency

The correlation coefficient (Pearson) was used between the paragraph score and the total score of the test, the results showed the significance of all paragraphs as the value (sig) is less than the significance level (0.05) and the degree of freedom (108), and Table (1) shows this.

Table 1. Shows the correlation between the paragraph score and the total score of the offensive formations test

Paragraph	correlation	level sig	Paragraph	correlation	level sig	Paragraph	correlation	level sig	Paragraph	correlation	level sig
1	0.54	0.000	6	0.55	0.000	11	0.56	0.000	16	0.69	0.000
2	0.61	0.000	7	0.51	0.000	12	0.67	0.000	17	0.66	0.000
3	0.54	0.000	8	0.62	0.000	13	0.65	0.000	18	0.68	0.000
4	0.63	0.000	9	0.64	0.000	14	0.62	0.000	19	0.63	0.000
5	0.63	0.000	10	0.61	0.000	15	0.60	0.000	20	0.59	0.000

Setting levels for testing offensive formations: Five levels were set as shown in Table (2)

Table 2. Shows the levels and their limits in raw scores and their significance for testing tactical knowledge

Significance in the scale	Borders in raw degrees	Test Level
Very low	4-0	First
Low	8-5	Second
Acceptable	12-9	Third
High	16-13	Fourth
Very high	20-17	Fifth

Scientific characteristics of knowledge of offensive formations:

A- Validity of tests

1. Content validity: This was achieved through content validity, which is often done by presenting tests and scales to a group of specialists.
2. Hypothetical formation validity: This was achieved through the following methods:
 - Finding the ease and discrimination coefficient: This was verified through the ease and discrimination coefficient.
 - Internal consistency: It was found through the correlation coefficient of each paragraph with the total score.

B- Test reliability

The reliability coefficient was extracted through the test and retest method, as the test was conducted on 8/25/2024 and was repeated on 9/8/2024, and the value (r) was extracted, and it was later found that the test has a high degree of reliability, as the value (r) reached (0.91) for the test of knowledge of offensive formations.

Application of the test on the application sample

The application was carried out on 10-15/1/2025 by the researchers with the help of the assistant staff, and the results were collected to achieve the main research objectives.

Statistical methods

The Statistical Package for Social Sciences, twenty-fifth edition, was used.



Findings

Knowledge of the level of knowledge of offensive formations among young volleyball players in Iraq.

The test was applied to the application sample, and the results were as follows.

Knowledge of offensive formations.

Table 3. Shows the statistical description of the offensive formations test in volleyball

Measuring unit	Arithmetic mean	Standard deviation	Skewness	T value calculated	Level Sig	Type Sig
Degree	12.33	0.21	0.32	14.77	0.000	Sig

The researchers attribute the reason for players having knowledge of offensive formations at an acceptable level to the fact that this category is at the beginning of their training journey and the interest of coaches and their focus on the physical and skill aspects. Coaches must pay attention to the methods of conveying information and knowledge related to the tactical aspects that contribute to the good performance of their players and contribute to activating their tactical abilities in order to organize and control the movement behavior accurately, which leads to achieving positive results in matches. Also, directing the players' attention towards the importance of obtaining information and knowledge related to how various skills are performed according to the conditions of the match and the type of defense used by competitors, and increasing the player's acquisition of it leads to developing his performance in the best possible way, taking into account individual differences in duties and tactical knowledge that suit this category accurately. These aspects contribute to the players in achieving victory and excellence, as they include the important factors on which good prediction is based in the process of selecting players and choosing them correctly (Hamid, 2012). Researchers believe that attention should be paid to knowledge of offensive formations and linking them to other training aspects. Here, the coach must be fully aware of the tactical situation of his players in order for the player to be prepared for the changing situations he goes through during training or competition.

Conclusions

- The ability of the knowledge test for offensive formations with (20) paragraphs that was built and five levels were set for it in measuring knowledge of offensive formations among players.
- Young volleyball players have an acceptable level of knowledge of offensive formations.
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Recommendations

- Benefit from the knowledge test for offensive formations in volleyball that the researchers built and set five levels.
- Develop special training programs according to these variables for the current and other age groups, as they are the basic rule.
- Providing current measurement tools in the hands of coaches and specialists to test their players in a scientifically accurate manner.

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References

- Hamid , A. M. (2012). Training determinants and their relationship to the tendency and competence of basketball coaches in Iraq, PhD thesis, College of Physical Education and Sports Sciences, University of Babylon.
- Hashem, N. Y., Al Edhary, D. F., Radhi, M. N., & Hmeid, M. G. (2022). The effect of dynamic lactic exercises in the maximum oxygen consumption and lay-up shot endurance of under-20 basketball players. *SPORT TK-Revista EuroAmericana de Ciencias Del Deporte*, 2.
- Radhi, M. N., & Obaid, S. H. (2020). The Effect of Exercises by Metabolic Conditioning (MetCon) Style in Some Physiological Variables and the Speed Motor Response for Young Volleyball Players. *Indian Journal of Forensic Medicine & Toxicology*, 14(4).
- Shalan, R. A., Aboode, M. A., & Radhi, M. N. (2022). The effect of qualitative exercises in developing motor compatibility and learning the skill of volleyball jump set. *SPORT TK-Revista EuroAmericana de Ciencias Del Deporte*, 5.
- Shaker, A. S., Tuama, H. M., & Radhi, M. N. (2022). The effect of using e-learning technology in learning the skill of clean and jerk in students of Physical Education and Sports Sciences. *SPORT TK-Revista EuroAmericana de Ciencias Del Deporte*, 4.

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Appendix

Appendix 1. The final version of the knowledge test for offensive formations in volleyball Dear player: Circle (o) the correct alternative, taking care to read each paragraph carefully and not to leave any paragraph unanswered.

No.	Paragraph
1	The team's offensive formations are built according to: A- The capabilities of other players. B- The different defensive methods and formations that the opposing team plays with. C- According to the result of the match.
2	The main goal of the quick attack: A- Hit the ball quickly. B- Deliver the ball to the opponent's court. C- Deliver the ball to the setter and make a quick attack.
3	The best types of setups used in the quick attack: A- Close. B- Fast. C- Over the head.
4	The collective defensive formations depend on: A- The physical aspects of the player. B- Correct positioning. C- The physical aspects and individual defensive ability of the player.
5	When the team is losing near the end of the match, we use to get the ball: A- Double blocking wall. B- Late defense 6. C- Attack from position 4.
6	The meaning of personal defense on the attacking player: A- The defender must follow the attacker from the moment the ball is prepared. B- Defending against the attacking player. C- Defending against the offensive player
7	When the attacking team has an offensive player from the back area, we use the formation with him: A- 2-4 B- 1-5 C- 6-0
8	To reduce the danger of long-range attacks, we use the formation: A- 3-3. B- 4-2. C- 1-5.
9	The main purpose of defense is: A- Look at the setter and then the attacker. B- Look at the attacker only. C- Defend the designated area only.
10	Mixed defense formations should be characterized by: A- Stability. B- Flexibility. C- Ease.
11	The 6-back defense is characterized by: A- The ability to cover individual weakness. B- It requires high physical fitness. C- Ease of understanding between players.
12	The most appropriate time to use the fast attack is: A- After receiving the ball well. B- The beginning of the match. C- In the late times of the match.
13	We use the attack from the back area: A- There is no blocking wall. B- There is no proper reception. C- There is no organized defense by the opposing team.
14	The player defending against the attacking player must force him to: A- Attack easily. B- Direct the ball towards the middle. C- Make his strike light.
15	The player defending against a player who is good at fast speed must be distinguished by: A- Not rushing quickly and jumping high. B- Paying attention to the attacker's movement. C- Preparing to jump quickly.
16	The main goal of the fast attack is:



- A- Deceiving the opposing team.
 B- Delivering the ball to the player and making a specific plan.
 C- Delivering the ball quickly and making a successful attack.
- 17 When using a defense formation without a blocking wall, focus must be on:
 A- The player and the ball.
 B- The ball and the player.
 C- The area and the player.
- 18 When the opposing team has one player who is good at quick attack, we use the defense:
 A- Double blocking wall.
 B- Man to man.
 C- Area defense.
- 19 When defending against two attacking players, the defender must:
 A- Move quickly to the player to whom the ball is raised.
 B- Retreating and taking a suitable place to cover the field.
 C- Monitoring the attacking player and creating a blocking wall.
- 20 The participation of all players in the attack that is studied and implemented in advance is called:
 A- The collective attacking formation.
 B- The individual attacking formation.
 C- The team.

Appendix 2. Correction of the offensive formations in volleyball in its final form

Paragraph	Answer	Paragraph	Answer	Paragraph	Answer	Paragraph	Answer
1	B	6	A	11	A	16	C
2	A	7	B	12	A	17	B
3	A	8	A	13	C	18	A
4	C	9	A	14	C	19	B
5	A	10	B	15	A	20	A

